Scream Tracker 3.2

---- USER'S MANUAL ----

(C) 1994 Kalle Kaivola

Edge / Electromotive Force

Contents:

Chapter 1. Introduction

     This document is not a complete beginner's guide to the Scream
   Tracker program, nor is it a text on making better music. It does
   not tell you how to program an .S3M player (the technical specs for
   that are in TECH.DOC) and it most certainly contains no code. It is
   made for those who have have worked with similar programs before
   and know some music theory. If you are not such a person, I suggest
   you don't try to blow your brains by trying to memorize this text and
   the things discussed herein. You would be better off printing the
   document, starting the program and reading the docs when something
   you don't understand comes up.
     For those of you who have had a lot of experience with trackers
   before and think that the tracker's quickhelp is enough for you,
   have a look at the Miscellaneous chapter. It contains a few useful
   hints about using the program you might not find otherwise.
     If you encounter a serious bug, you should report it to my E-Mail
   account, edge@xgw.fi. I can't possibly answer all the mail I receive,
   but I do read it and add all the bugs to the ever-increasing
   buglist. If you find a bug, you should try to be precise in how it
   can be recreated. Bug reports like "sometimes the tracker hangs while
   playing" are useless. If you can speculate on the cause of the bug,
   do tell your thoughts, too. Also, you should not ask for any
   programming help (sources, ideas, etc) because I'm a musician, not a
   coder.

1.1 What is Scream Tracker 3.2?

ST is a program for composing "modules", songs containing digital
and FM instruments (samples) and note data (patterns). Most of you
should be familiar with these terms, so they will not be described
in depth here. This documentation is a starting guide for a person
who has had previous experience with trackers.

Scream Tracker is able to handle a maximum of 16 digital channels
and 9 FM channels. Supported fileformats are normal .MOD's,
Fasttracker 6 and 8-channel .MOD's, Oktalyzer .OKT's, Scream Tracker
2.* .STMs, and naturally Scream Tracker 3 .S3Ms. ST3 only saves in
.S3M and .MOD format, though.

1.2 Hardware Requirements

In order to run Scream Tracker 3.2, you need at least a 386SX,
a VGA display and a soundcard. The supported soundcards are Sound
Blaster, Sound Blaster Pro, Gravis Ultrasound and all cards that
are 100% compatible with any of the above. The FM-options only work
on SB and SB-Pro compatible cards, since GUS doesn't have an FM
chip. There is no mouse support, since it wouldn't really be
convenient in this style of tracker.

You should also have some EMS, since Scream Tracker loads the
sampledata into EMS (even with a GUS). The patterndata is stored in
conventional (below 640k) memory. If you're running low on memory,
the FreeMem display in the main screen will turn red. It would be a
very good idea to save your work, since ST tends to turn unstable in
low memory situations. When I have worked with Scream Tracker without
EMS, loading a big module has often resulted in a crash warning and
the computer hanging.

1.3 Distributing ST 3.2

The Scream Tracker is distributed as freeware, and this means that
you can give it to your friends and distribute it in any way as long
as no money is involved. The basic idea is that you have the right
to use the program but not sell it. As an exception to selling, a
right is given to pd/shareware companies to include this program
in their collections as long as no special pricing policy is used
with the Scream Tracker.

There is no warranty. Since you paid nothing for this software
it's only fair that you use it at your own risk. The author can not
guarantee that the software always works as expected. Any damages
you caused (to yourself or to others) by using the program are
entirely your own responsibility. Luckily the software seems quite
stable if you really don't try to do something weird :-)

2. Brief Guide to Scream Tracker

This chapter describes shortly the terms that are necessary to
know when using Scream Tracker 3. The effect list is also included.

2.1 Samples

Module music consists of instruments, called samples. They are
raw 8-bit, digital data fed back at varying frequencies and volumes
through your soundcard to form music. For soundcards that support
FM-synthesis, there are synthesized instruments, but those are
described in more detail in section 4.1.

Samples vary from in length from 1 to 65536 bytes. However,
Scream Tracker can only handle samples up to 64000 bytes, so some
sampledata might be lost if you load a module with huge samples.
ST will automatically cut samples that are too big when loaded.
Some samples also have loops, which make the sample repeat a certain
part of the sample. There are two values to a loop, the loop begin
and the loop end. The begin value is where the sample should be
started again once it reaches the loop end value. Every sample also
has a default volume and pitch. The default volume is the volume
that is used when no other volume is given in the pattern. The

default pitch is the frequency the sample should be played at C-4.
The samples are accessed by going into the instrument list by
pressing F3.

2.2 Patterns

Modules also have note data, called patterns. Patterns are where
the music actually comes from. Every pattern consists of a varying
number of 32 columns and 64 horizontal rows. Each position then has
five values for the note - pitch, instrument number, volume, effect
and infobyte. Here is an example note:

C#4 04 25 H81

This would mean a C sharp in the fourth octave with the fourth
instrument at volume 25, vibrating with a speed of 8 and frequency
of 1. You will find a list of the effects in section 2.4 if you
aren't familiar with them.
You can also omit some parts of the note like this:

```
C-5 04 25 ...
D#5 .. .. ...
E-5 .. .. ...
G-5 .. .. ...
```

This plays C, D sharp, E, and G all with instrument 4 and volume 25.
However, if there had been an instrument number in one of the notes
other than the C-5, it would have been played with the default
volume.

```
C-5 04 .. H81
... .. .. H00
... .. .. H00
... .. .. H00
```

This would continue to vibrate the C-5 note at 81. The other commands
that use the previous infobyte value in the effect in case of a 00 are
D, E, F, G, I, J, K, L, and Q.

2.3 Orders

The order the individual patterns are played in is stored in
the order list. While the maximum number of patterns is 100, you
can have a longer song by repeating patterns. Basically the order
list is just 255 pattern numbers that instruct how the song is to
be played.

2.4 Effects

An effect is applied to a note to change how it or the whole pattern
is played. If you are using a tracker for the first time, I suggest you
just skip this chapter and come back when you have learned the basics.
But for those with previous experience, Scream Tracker 3 supports
nearly all Protracker effects and a few effects of its own. If you want
to see how these commands can be used in a song, check the example song
64MANIA.S3M, it contains most of these effects. It is no masterpiece of
melody, it is made just to acquaint a beginner with the different
effects and how they can change the sound of a song completely.
Here is a list of all the effects and what they do (a shortened list
can be found in the ST3 internal quickhelp system by pressing F10 in
the pattern editor):

Axx Set speed to xx (the default is 06)

This command is used for setting the song's speed. The
speed varies from 1 (fastest) to FF (slowest). With most
standard trackers, however, the slowest possible speed is
1F, since speed and tempo are in the same command.

Bxx Jump to order xx (hexadecimal)

This command jumps to the order number specified in the
infobyte (remember to give the order number is hexadecimal
format). The row this command is on is still played, but the
next row played will be the first row of the pattern at order
xx.

Cxx Break pattern to row xx (decimal)

This command breaks the pattern after playing the row it's
on. It will skip to the next pattern in order and automatically
jump to row xx. (Decimal)

D0y   Volume slide down by y

This will slide the volume down with the value of y. The
amount of the slide will be (speed-1) * y. Thus a command
of D04 at speed 8 will drop the volume by 28.

Dx0   Volume slide up by x

This will slide the volume up with the value of x. The amount
of the slide is the same as with the volume slide down command,
speed times x. The volume can't be higher than 64, though.

DFy   Fine volume down by y

Fine volume differs from volume slide in that it doesn't
slide the volume smoothly, but instead changes the volume in
the beginning of the row. It has lost some usefulness in ST3,
because there is a separate volume column, but it still has
its uses. Fine volume is also independent of the speed, it
always changes the volume by the infobyte y. If y is 0, the
command will be treated as a volume slide up with a value of
f (15). If a DFF command is specified, the volume will be
slid up.

DxF   Fine volume up by x

Same as fine volume down, but raises the volume instead of
lowering it. Volumes going over 64 are changed into 64.

Exx   Slide down by xx

This command will slide the pitch of the note down as
specified by xx. The range is 00..DF, since values above that
are cosidered fine slides.

EFx   Fine slide down by x

Fine slide, like fine volume, is unlike normal slide in
that it slides to the desired pitch in the beginning of the
row, not smoothly. It is also independent of the speed, it
always slides the same amount, as dictated by x.

EEx   Extra fine slide down by x

Acts list a fine slide, but is four times more accurate.

Fxx   Slide up by xx

This command will slide the pitch of the note up as
specified by xx. The range is 00..DF, since values above that
are cosidered fine slides.

FFx   Fine slide up by x

Fine slide, like fine volume, is unlike normal slide in
that it slides to the desired pitch in the beginning of the
row, not smoothly. It is also independent of the speed, it

```
             always slides the same amount, as dictated by x.

FEx      Extra fine slide up by x

            Acts list a fine slide, but is four times more accurate.

Gxx      Tone portamento with speed xx

            This command will start changing the current pitch to match
         the note given with this command. Subsequent G-commands will
         continue sliding the pitch until the note is reached at which
         time the portamento will be stopped.

Hxy      Vibrato with speed x and depth y

            Vibrato vibrates the note by changing the pitch with speed
         x and depth y.

Ixy      Tremor with ontime x and offtime y

            Tremor turns the note on for x frames and off for y frames.
         It is not a ProTracker command, so all tremor commands will
         be discarded when the song is saved as a .MOD file.

Jxy      Arpeggio with halfnote additions of x and y

            Arpeggio changes the playing frequency between the note,
         the note + x halfnotes and the note + y halfnotes 50 times
         per second. It is best to use it with clear or tight-looped
         (chip) instruments. Old users of the Commodore 64 remember
         this effect which was used to make chords. A C minor chord,
         for example, would be made with J37, which would play C, D#
         and G.

Kxy      Dual command: H00 and Dxy

            This is the old vibrato + volumeslide from the Protracker
         command set. It continues the vibrato begun before the
         command and adds a volumeslide. You cannot, however, use
         fine volume sliding. An example of usage:

                    C-5 04 28 H82    Start the vibrato
                    ... .. .. K02    Continue vibrato while lowering volume
                    ... .. .. H83    Deepen the vibrato
                    ... .. .. K01    Slide the volume down with the new
                                     vibrato depth value

            At speed 6, the volume would end up being 13.

Lxy      Dual command: G00 and Dxy

            This is the old toneport + volumeslide from the Protracker
         command set. You must first use a G command and then put the
         L command. It will continue the toneport and slide the volume
         like a normal volumeslide with value xy. You cannot, however,
         use fine volume sliding.

Oxy      Set sample offset

            This command starts playing the sample at offset 256 times
         xy. A command of O10 would start playing the sample at
         position 256 * 16 = 4096. If the sample offset is used in
         a looped sample and the offset given exceeds the loop end
         value, the loop is taken into consideration and the offset
         will be calculated as if the sample had looped. In the
         example song pattern 3, the sample offset command is used
         to create a hihat-type sound by playing only the end part
         of the snare sample.

Qxy      Retrig (+volumeslide) note
```

The retrig command triggers the sample many times in one
row. The y value tells how many frames there are between the
retrigs. There are as many frames in one as the speed is. At
speed 6 a retrig of Q03 would trigger the note two times. The
x value tells if there should be a volumeslide between the
retrigs. If the volumeslide part is 0, the command acts
like the old Amiga retrig. The amount the volume will change is shown in the
following table:

```
0: 0     (No volumeslide)
1: -1
2: -2
3: -4
4: -8
5: -16
6: 2/3 times the original volume
7: 1/2 times the original volume
8: ?
9: +1
A: +2
B: +4
C: +8
D: +16
E: 3/2 times the original volume
F: 2 times the original volume
```

Example of use:

```
(speed 8)
C-5 04 64 Q72    -Four retrigs, their volumes being
                  64, 32, 16 and 8
(speed 6)
C-5 04 12 QC2    -Three retrigs with volumes 12, 20
                  and 28
```

Rxy   Tremolo with speed x and depth y

    Tremolo acts like vibrato, but changing the volume of the
note instead of the pitch. If the volume is at 64, all volumes
going over 64 will be clipped at 64, so you should use lower
volumes.

Uxy   Fine Vibrato with speed x and depth y

    Vibrates the note by changing the pitch with speed
x and depth y just like normal vibrato, but is four times
more accurate. If a note is played very high, a normal
vibrato might sound too strong, so a fine vibrato can
be used.

S0x   Set filter

    An Amiga hardware function, not implemented in Scream
Tracker.

S1x   Set glissando control

    Makes toneportamentos slide a halfnote at a time on the
channel the S11 command is given. S10 makes the portamentos
act normally again.

S2x   Set finetune (=C4Spd)

    The set finetune command is used only to retain Protracker
compatibility. Because Scream Tracker has a more accurate way
of setting the desired instrument frequency, using this
command is pretty pointless. However, if you want to dabble
around with it, these are the C4Spd values the command uses:

```
                        0          - 7895 Hz
                        1          - 7941 Hz
                        2          - 7985 Hz
                        3          - 8046 Hz
                        4          - 8107 Hz
                        5          - 8169 Hz
                        6          - 8232 Hz
                        7          - 8280 Hz
                        8          - 8363 Hz (No finetune)
                        9          - 8413 Hz
                        A          - 8463 Hz
                        B          - 8529 Hz
                        C          - 8581 Hz
                        D          - 8651 Hz
                        E          - 8723 Hz
                        F          - 8757 Hz
```

S3x   Set vibrato waveform to x

           Sets the waveform of the vibrato command. The different
        options are 0 - the normal sine waveform, 1 - ramp down,
        2 - square waveform, and 3 - random.

S4x   Set tremolo waveform to x

           Acts like the set vibrato waveform command, but affecting
        the waveform used for the tremolo command.

S8x   Set channel pan position

           This command has been implemented in ST 3.2. It sets the
        channel pan position with 0 being left and F being right.
           *** Note that this command only works on a GUS!!! ***

SAx   Stereo control

           This is an old command no longer implemented in Scream
        Tracker. The only .S3M file released that would support it
        is the soundtrack from Panic by Future Crew. The new S8
        command is more efficient, too.

SBx   Pattern loop.

           Pattern loop is used for looping inside the pattern. First,
        you must use an SB0 command to set the loop point where the
        loop is to begin. Then you must use SBx to return to the loop
        point x times. In the example song in pattern 5, you can see
        how this command can be used to save pattern space. Also, you
        should not try looping back to a loop point in another
        pattern! If you don't enter an SB0 command, the loop defaults
        to the beginning of the pattern.

SCx   Notecut in x frames

           The note played will be cut in x number of frames. At speed
        8, for example, an SC4 command would cut the note at exactly
        halfway through the row.

SDx   Notedelay for x frames

           This delays the playing of the note until x frames into the
        row. Until the new note comes out, the previous one is played.

SEx   Patterndelay for x notes

           This repeats the current row x times without triggering the
        notes again but applying the effects.

SFx   Funkrepeat with speed x

Not implemented in Scream Tracker 3.

        Txx   Tempo = xx (hex)

                    Changes the tempo (BPM's) to xx. The valid values are 20
                to FF. The default is 7D hex, which is 125 decimal.

        Uxx   Fine vibrato

                    Similar to the Vibrato (Hxx) command in that it vibrates the
                note, but it is four times more accurate.

        Vxx   Set global volume

                    Changes the global volume at which the whole song is played.
                Accepted values are 0 to 40.

        The Protracker effects left out, thus, are Set filter and Funkrepeat.
    Most songs play fine without them, though.

2.5   Setting up Scream Tracker

        The first thing you most likely want to do is set up ST. Pressing
    Shift + F9 will activate the setup screen. The first thing on the left
    is the screen color selection. You can define 13 of the 16 colors on
    the palette by changing the values there. The numbers are the red,
    green and blue values of each color. They range between 0 and 63. You
    can use the + and - keys to adjust the brightness of the color. D will
    restore the default palette.
        The two directories are the default directories for your samples and
    songs. The trailing backslash is not necessary.
        The chords are the those you use when editing the patterns in the
    chord mode. They can also be changed, but a set of common chords is
    included in the default setup. The chord system will be described
    in section 3.2, Editing Patterns.
        The soundcard configuration is handled by autodetection. If ST
    fails to detect your soundcard correctly, you can enter the settings
    from the commandline. Valid switches are:

                -s1   Sound Blaster soundcard
                -s2   Gravis Ultrasound soundcard
                -s5   Sound Blaster soundcard
                -m###   Set mixing speed to ### (Does not affect Gravis)
                -a###   Soundcard address
                -i###   Soundcard interrupt (only required for SB)
                -c###   Soundcard DMA channel (only required for SB)
                -b012   Force 512/1024/2048 byte buffer for SB
                -?   List of all switches

3. Scream Tracker 3 Interface

        As you may notice when starting the program (I assume you started
    the program before reading the documentation as most of us do), the
    external appearance of ST has changed since version 2. Many of the
    old commands are still under the same keys, though, so those familiar
    with the old Scream Tracker (or Composer 669 and Multitracker for
    that matter) will find it easy to get used to the new interface.
    Those who have been using only Protracker or its clones have more
    to learn, though. The different screens and their commands are
    described in this chapter.

3.1 F1 - Order List and Variables

3.1.1 Order list

        This is where the order list is edited. On the left, there is a
    list of the orders and the patterns that go with them. They can be
    edited with the number keys. Pressing G changes the current pattern
    to the one under the cursor jumps to edit pattern mode.

3.1.2 Channels

       The 32 possible channels are defined here. There are 8 digital
    channels on the left and 8 on the right (16 mono on SB). They are,
    respectively, L1 through L8 and R1 through R8. A (--) means the
    channel is not played. There are also 9 Ad-lib channels ranging
    from A1 to A9. They are mono and can only be used on soundcards
    with an FM chip (Sound Blaster and Sound Blaster Pro).
       In ST 3.2, the default channel pan position feature is also
    introduced. The field right next to the channel number is where
    the panning value can be set. It works just like the S8 command,
    but any panning commands in the pattern itself naturally change
    the pan position. Note that the panning only works on a GUS.

3.1.3 Global Variables

       From here you can set the following variables:

    Tempo   - Global tempo, the tempo at which the song is
                     played if no other tempo is specified. Defaults
                     to 7D.

    Speed   - Global speed, the speed at which the song is
                     played if no other speed is specified. Defaults
                     to 6. Can be changed with the brackets keys from
                     the edit pattern screen.

    Global Volume - The global volume of the song, affecting all
                     channels. The range is 0 through 40.

    Master Volume - This will affect the oversampling rate on SB cards,
                     on a GUS card this value is ignored. If a song
                     sounds bad on an SB, lowering the master volume
                     might help.

    Volume 0 opt. - This option is also for Sound Blaster cards. It will
                     turn off notes that are left on 0 volume for a longer
                     time in order to save processing power. It is mainly
                     used in demos and such. On a GUS the processing time
                     saved is minimal.

    Force Amiga lim - Forces the old Amiga limits on the song. The main
                     restriction is that you can only use octaves 3-5
                     (former Amiga octaves 1-3). You can still enter
                     notes above and below these barriers but they will
                     be played as C-3 or B-5.

    Mod Edit Mode - Turns all non-mod compatible pattern data red.
                     Explained in section 4.1.

    Fast volslides - Old Scream Trackers had a defective volume slide
                     command, which slid the volume on every frame. When
                     set on, the Fast Volslides option will play the
                     volume slides like the old Scream Trackers. ST3
                     checks for the version number of the tracker the
                     .S3M was made on, and if it's older than 3.2, the
                     fast volslide option will automatically be activated.

    Ultraclick Rem. - If you song "clicks" constantly on a GUS, it could
                     be the result of ultraclicks. This option will try
                     to remove the ultraclicks by lowering the samplerate
                     on the GUS, thus allowing more channels to be used
                     for removing the ultraclicks.

    Enable Stereo - Enables stereo playback of the song on stereo cards.
                     Otherwise the song will be played mono regardless of
                     the channel allocations.

3.2 F2 - Edit Pattern

The pattern edit screen is where you'll spend most of your composing time. Many commands are familiar from other trackers, but the keys might be different from what you are used to. The basic commands are still mostly under the same keys as in Scream Tracker 2. This chapter describes the keys in depth, but a quickhelp of the keys can be obtained from the tracker by pressing F10.

3.2.1 The Edit Display

This is what the pattern edit screen looks like:

```
ÞßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßÝ
Þ                            Pattern Editor (F2)                                          Ý
Þ     01: L1         02: R1         03: L2         04: R2         05: L3                   Ý
Þ 00ÝC-5 04 12 H81Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ý                Ý
Þ 01Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ý                Ý
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Þ 21Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ý                Ý
Þ 22Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ý                Ý
Þ 23Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ý                Ý
Þ 24Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ý                Ý
Þ 25Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ý                Ý
Þ 26Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ý                Ý
Þ 27Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ý                Ý
Þ 28Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ý                Ý
Þ 29Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ý                Ý
Þ 30Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ý                Ý
Þ 31Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ýùùù ùù ùù .00Ý                Ý
Þ    ↕↕↕ ↕↕  <-- The edit mask                                                            Ý

ÞÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÝ
```

In a closeup, we can see what fields each channel is made out of:

```
        01: L1
   00ÝC#5 04 12 H81Ý
   01Ýùùù ùù ùù .00Ý
   02Ýùùù ùù ùù .00Ý
   03Ýùùù ùù ùù .00Ý
   ^   ^ ^ ^   ^   ^ ^
   ³   ³ ³ ³   ³   ³ ³
   ³   ³ ³ ³   ³   ³ ÀÄ Infobyte (00-FF, hexadecimal)
   ³   ³ ³ ³   ³   ÀÄÄÄ Effect command (A-Z)
   ³   ³ ³ ³   ÀÄÄÄÄÄÄÄ Volume (0-64, decimal)
   ³   ³ ³ ÀÄÄÄÄÄÄÄÄÄÄÄ Instrument (00-99, decimal)
   ³   ³ ÀÄÄÄÄÄÄÄÄÄÄÄÄÄ Octave (0-7, decimal)
   ³   ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ Note
   ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ Row
```

3.2.2 Entering Notes

```
        For entering notes into the tracker, the keyboard is turned into
      a piano in the following way:

Actual note:      C# D#    F# G# A#    C# D#     F# G# A#    C# D#
                3  3  33 3  3  3 33 33 3  3  3 33 3  3  3 33 33 3  3  3 33 3  3
                3  3  33 3  3  3 33 33 3  3  3 33 3  3  3 33 33 3  3  3 33 3  3
                3  3S33D3  3  3G33H33J3  3  32333³  3  35³36³37³  3  39³30³  3
                3  ÀÂÙÀÂÙ  3  ÀÂÙÀÂÙÀÂÙ  3  ÀÂÙÀÂÙ  3  ÀÂÙÀÂÙÀÂÙ  3  ÀÂÙÀÂÙ  3
                3  Z3  X3  C3  V3  B3  N3  M3  Q3  W3  E3  R3  T3  Y3  U3  I3  O3  P3
                ÀÄÄÁÄÄÁÄÄÁÄÄÁÄÄÁÄÄÁÄÄÁÄÄÁÄÄÁÄÄÁÄÄÁÄÄÁÄÄÁÄÄÁÄÄÁÄÄÁÄÄÁÄÄÁÄÄÀÙ
Actual note:      C  D  E  F  G  A  B  C  D  E  F  G  A  B  C  D  E
```

        The period (.) key is used for clearing a note.

        Pressing one of the above keys enters the desired note, but the
      following things must be taken into consideration:

      1. Baseoctave

        In the top right part of the screen, you will see the current
      baseoctave. It can be changed with the * and / keys, most easily
      accessed from the keypad. The number is the octave of the lower
      keyboard.

      2. Edit Mask

        The edit mask is shown in the bottom row of the screen just below
      the channel you are editing. It shows what entering a note will
      change on the current row. The small triangles indicate what is
      changed. The default is the note and the instrument. By pressing the
      comma (,) on the either the volume or effect row you can turn the
      respective column on so that a new note will include the last value
      used in these columns with the new note. Also, entering a period
      (.) will only delete the values in the columns indicated by the
      edit mask.

      3. Skip Value

        The skip value is how many rows the cursor will advance after
      entering the note. The default is one, but it can be changed with
      ALT-1 through ALT-8 which will change the skip value to the respective
      number.

      4. Chord Mode

        The chord mode enables you to enter chords by placing the notes
      of a chord on separate channels. It is activated by pressing one of
      the chord keys, which are ALT+Z through ALT+M (the lowest keyboard
      row). It is deactivated with the colon mark (:). When you press one
      of the chord keys, the appropriate chord name pops up in the chord
      field in the top right part of the screen. You should also see more
      cursors appearing (if you're using the default chordset). Typing a
      new note will now place a note in all the columns with a cursor. The
      pitch of the note will depend on what kind chord is being used. If
      you have a chord like this:

              Sus4   C   F   G

        Pressing E-5 will naturally place an E-5 in the first column, an
      A-5 in the next and a B-5 in the one after that. Since teaching music
      theory is not the main purpose of this document, I will not go into
      more detail, but those who know music basics should know how this
      works. You can edit the different chords in the Setup screen
      (Shift-F9).

      5. Default note playing

        Pressing SHIFT+Q through SHIFT+L (the upper two keyboard rows) will
      enter the respective (1-10) instrument with the current note. The

current note is the one that was last played or one picked up by
pressing ENTER on an already existing note. This command is useful
for creating drumlines and such.

   6. Polychannel Mode

   By pressing ALT+N, you can invoke the polychannel mode. A small
M will appear below the channel you are currently on and the channel
is marked as a polychannel. You can toggle each channel as polychannel
with ALT+N. In this mode, when you enter a note on polychannel, the
cursor will skip to the next available polychannel, taking the skip
value into consideration.

3.2.3 Pattern Edit Commands

   Since this document is only a clarification of the helps found in
the tracker itself, the pattern edit commands are going to be listed
in the same order as found in the tracker. Most of these commands are
best experimented in the tracker, but if you can't figure them out,
look here. And again, don't try memorizing them all in one try, there
are quickhelps available through the tracker behind the F10 key.

   ,   Toggles the edit mask, described in section 3.2.2.

   < >   Changes the current instrument. Another way of changing the
            instrument is going into the instrument list with F3 and using
            the up and down arrow keys.

   / *   Changes the baseoctave. Described in section 3.2.2

   + -   Changes pattern. For quicker movement in the patterns, SHIFT +
            and SHIFT - jump four patterns instead of one. You should use
            the keypad.

   { }   Changes global speed. You can change the default playing speed
            with these. It can also be changed from F1 along with the
            default tempo. Provides a quick way to change the speed without
            messing up the pattern.

   .   Empties current field taking the edit mask into consideration.

   1   Adlib noteoff command. This is used for deactivating an Adlib
            voice. It is described better in section 4.1, Adlib FM-Songs.
            The command can also be used to stop a regular note.

   4   Plays current note under cursor. The cursor must be over the
            note column. Originally a debugging tool, but it can be used
            to play melodies step by step to point out mistakes etc.

   8   Plays current row under cursor. The cursor must be on top of
            the note column.

   ALT-0-8 Changes the skip value, described in section 3.2.2

   CTRL-1-9 Changes the amount of rows between the grey bars. You can
            use this command to facilitate writing music in another time
            signature like, say, 3/4. Note that you should adjust the
            pattern break point accordingly (at row 47 if the signature
            is 3/4, etc).

   ALT-N   Toggle polychannel mode for channel. Described in section
            3.2.2

   CT-Home Moves the cursor up one row regardless of the skip setting.

   CT-End   Moves the cursor down one row regardless of the skip setting.

   Home   The first time pressed, the cursor moves to the note part of
            the current channel. The second time it moves to the first row
            in the pattern. On the third press the cursor moves to the first

channel.

        End   The first time pressed, the cursor moves to the infobyte part
                of the current channel. The second time it moves to the last row
                in the pattern. On the third press the cursor moves to the last
                defined channel.

        BKSPC   Goes back to last note, useful in polychannel mode.

        INS   Inserts a row in the current channel. In chord mode, a blank
                row is inserted in every channel with a cursor. SHIFT+INS inserts
                a blank row in every channel.

        DEL   Deletes the row under the cursor from the current channel. In
                chord mode, a row is deleted from every channel with a cursor.
                SHIFT+INS deletes a row from every channel.

        ENTER   Reads the default note, instrument, volume, effect and
                infobyte from the current row.

        CT-BKSPC Undo. Restores the pattern in the undo buffer. Only the area
                commands automatically save the pattern in the undo buffer.

        CT-ENTER Stores the pattern to the undo buffer. If you want to mess
                around with the pattern and the restore it, press CT-ENTER and
                after testing, press CT-BKSPC to restore the original pattern.
                Do not use area commands while testing, though, since they
                overwrite the undo buffer.

        CTRL-B Changes the spaces between the dark horizontal bars. You can
                use this to write your songs in 3/4 (or other such) signature.
                It also changes the way ALT-D and PageDown/PageUp works.

        ALT-T   Toggles current channel to be a stationary channel in the left
                part of the edit screen. You can toggle a maximum of four
                channels to stay in the left window. Comes in handy when making
                songs with many channels so you can have certain channels be
                visible at all times.

        ALT-R   Resets left window. This removes the stationary channels from
                the left window and returns to the normal one-window mode.

        S-QWER.. Default note playing, discussed in section 3.2.2

        S-ZXCV.. Sets chord mode, discussed in section 3.2.2

3.2.4 Area commands

        These commands are all associated with selecting and editing area of
        notes. When a new area is selected, the previous one is forgotten.

        ALT-D   Quickselects an area. When pressed the first time, it forms
                an area starting from the cursor and ending 16 rows down the
                channel. The next time pressed, the size of the area expands
                to 32 rows and on the third press to 64. These amounts are
                changed if you use CTRL-B to specify a new distance between
                the horizontal grey bars so as to be 4 times the distance.

        ALT-B   Marks the beginning of an area.

        ALT-E   Marks the end of an area.

        ALT-L   Selects the whole channel as an area. When pressed a second
                time, the whole pattern is selected as the area.

        ALT-U   Unmarks area. When pressed twice, the clipboard is emptied.
                The only advantage of that is its freeing up memory.

        ALT-C   Copies area to clipboard (=memory). Stores the selected area

```
                  in memory for later pasting or mixing.

       ALT-P     Pastes the area in the clipboard starting from the cursor.
                 The exception to this is pasting an entire pattern, which is
                 always pasted on top of the old one, not necessarily starting
                 from the cursor. If there are notes that go under the bottom
                 of the screen, they are lost, so be careful where you paste.

       ALT-P     Overwrites the area in the clipboard starting from the cursor.
                 The exception to this is pasting an entire channel, which is
                 always written over the old one, not necessarily starting from
                 the cursor.

       ALT-M     Mixes clipboard with the already existing notes. What it does
                 is that it acts like a paste, but it doesn't touch existing
                 notes. It is useful for making echoes, a fast way to do it is
                 by first setting the skip level to 2 and writing the melody.
                 Then copy the melody to an adjacent channel, lower its volume
                 with ALT-J, insert it one row, and mix it with the original
                 melody.

       ALT-H     Overwrites the clipboard without changing the volumes and
                 effects already present in the pattern.

       ALT-Y     Swaps areas. Swaps the selected area with a same sized area
                 starting from the cursor. Comes in handy if you want to convert
                 your .S3M into a .MOD and want to change the pattern data to
                 better suit the Amiga Left-Right-Right-Left panning method.
                 This command has been known to scramble pattern data in some
                 cases, so be careful when using it.

       ALT-Z     When pressed twice, erases the selected area.

       ALT-X     When pressed twice, deletes the effects and infobytes from the
                 selected area.

       ALT-Q     Raises the pitch of all the notes in the selected area by a
                 halfnote. If no area is selected, the note under the cursor is
                 changed.

       ALT-A     Lowers the pitch of all the notes in the selected area by a
                 halfnote. If no area is selected, the note under the cursor is
                 changed.

       ALT-V     Changes all volumes in the selected area to the default
                 volume.

       ALT-W     Changes all volumes in the notes in the selected area to
                 the default volume. Leaves rows with only volumes alone.

       ALT-S     Changes all samples in the selected area to the default
                 sample.

       ALT-I     Multiplies all the volume in the area by 3/2. Useful for
                 creating echoes.

       ALT-J     Multiplies all the volume in the area by 2/3. Useful for
                 creating echoes.

       ALT-F     Doubles area length. Inserts a blank row between all the
                 existing rows in the area. If you have marked a too big area,
                 notes will be lost if they go below the last row.

       ALT-G     Halves area length. Halves an area by removing every other
                 row in the selected area and a same sized area following it.

       ALT-K     Slides volume in area. By filling the volume column in
                 the first and last row of the marked area and pressing ALT-K,
                 you can make a smooth volume slide from the beginning volume
                 to the end volume. Especially useful for fade-ins and fade-outs.
```

3.3 F3 - Instrument List

        The instrument list is where you select and edit the samples used in
        the song. This is what a sample might look like:

```
Ý�03Ýturtle.jamaica.d50organ     ÝSMPÝ44Ý08363ÝTMÝTÝ
 3   3                           3   3   3     3   3
 3   3                           3   3   3     3  ÀÄÄ Test sample (plays note)
 3   3                           3   3   3        ÀÄÄÄÄÄ Test sample with multiple
 3   3                           3   3   3               channels
 3   3                           3    3  ÀÄÄÄÄÄÄÄÄÄÄÄ C4Spd, the frequency the
 3   3                           3    3                 sample is played at C-4
 3   3                           3  ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄ Default volume, the volume
 3   3                           3                 used when none is given
 3   3                           ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ Sample type (Normal or FM)
  3  ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ Name of sample
  ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ Number of sample
```

        You can use the test sample and test sample with multiple channels
        fields for playing the sample with the keyboard. Pressing F8 will stop
        playing the sample. The subwindow on the right tells information about
        the current sample. This is an example window for the above sample:

```
 Instrument 03: sample        - Sampletype
              ÞßßßßßßßßßßßßßßßÝ
   Filename:ÞORGAN2         Ý    - Sample filename
       Loop:Þon             Ý    - Loop toggle
 Loop start:Þ004700         Ý    - Starting point of loop
   Loop end:Þ017250         Ý    - Ending point of loop
     Length:Þ018542         Ý    - Length of sample
              ÞÜÜÜÜÜÜÜÜÜÜÜÜÜÜÝ       in the song, works only on SB
```

        The available keys in the instrument list are:

        TAB   Switches between the main list and the subwindow.

        ALT-D   Deletes instrument from memory.

        ALT-O   Saves current instrument to disk. It will save to the
                  current directory. The directory can be changed from F4, and
                  I suggest using multiple directories, or you are going to get
                  very confused. A header is saved with the sample also so that
                  the loop, C4Spd and other data can easily be restored.

        ALT-W   Same as ALT-O but doesn't save the ST header in the sample.

        ALT-M   Maximizes the volume of the sample like Digiplayer. It will
                  warn if the change will affect the quality of the sample. Does
                  not work with FM-sounds.

        ALT-X   Exchanges two samples in the instrument list. It doesn't
                  change the patterns.

        ALT-S   Swaps two samples, both in the instrument list and the
                  patterns.

        ALT-V   Displays the sample as a text file. Included for those who
                  want to send their hellos etc. in the module by loading a text
                  file as a sample.

        ALT-A   "Flips" sample, alternates between Amiga and PC sampletype.
                  If an old sample you load from the hard disk sounds strange,
                  try pressing this.

        ENTER   Loads an instrument from the sample library. Pressing enter
                  on the desired sample replaces the current one with it.

        The following commands only work when the cursor is on top of the
        C4Spd field:

```
           + -       Multiplies or divides the C4Spd by two. Useful if you want
                     to hear a sound an octave higher / lower without having to
                     touch the patterns.

           *         Resets the C4Spd value to 8363.

           /         Asks the note which you want to be played at C-4 and changes
                     the C4Spd accordingly. Nice if you use samples that are
                     digitized from varying pitches.
```

3.4 F4 - Instrument Library

    The instrument library is where you store your samples. The default
instrument directory is <ST3 path>\I\. If you plan on making music and
storing samples on your hard disk, it would be advisable to create
several subdirectories under the main one. Here is an example:

```
                    C:\ST3\I\
                    C:\ST3\I\LEAD
                    C:\ST3\I\BASS
                    C:\ST3\I\DRUMS
                    C:\ST3\I\CHORDS
                    C:\ST3\I\EFFECTS
                    C:\ST3\I\SPEECH
```

    You can use a more complex one depending on how many samples you are
going to be saving to the hard disk.
    Entering the instrument library happens from the instrument list. You
can either press F4 or Enter in the instrument list. If you pressed
enter, you can load a sample by pressing enter again on top of the
sample you want to load. You can change the directory by either pressing
enter on the directory you want to change to or by pressing ALT-G and
typing the name of the drive and directory you want to change to.

3.5 F5 - Info Screen

    Here you can watch the song being played. If there is no other output
(a sample playing, etc) when you press F5, the command acts like the
global command shift-F5, play song. The available keys for the info
screen are:

```
    ALT-S     Toggle stereo. Works like the stereo toggle discussed in
              section 3.1.3

    CTRL-T    Toggle trackmode. Changes between the 5, 8, and 18-channel
              track viewers. A global command.

    LEFT/     Scrolls the channels shown in the bottom infoscreen to the
    RIGHT     left and right.

    UP/DOWN   Changes the number of channels shown in the upper equalizers.

    PGUP/DN   Selects the bottominfo mode. Note that the SOutputScope only
              works on SB cards because there is no actual mixing on the GUS
              card. The channelscopes are also disabled on a GUS because of
              some unstabilizing qualities of the scope.

    + -       Change the order being played.

    4         Sets the amount of visible channels in the top view to 4.

    6         Sets the amount of visible channels in the top view to 16.

    8         Sets the amount of visible channels in the top view to 8.
```


3.6 Global Commands

    In addition to the specific commands, there is a multitude of global

```
        commands that work everywhere in the tracker. They are:

        ESC     Brings up the main menu.

        F1      Changes to the order list and global variables menu.

        F2      Changes to the edit pattern mode.

        F3      Changes to the instrument list mode.

        F5      Changes to the info screen mode and starts playing the song
                if no other sound output is active.

        SH+F5   Plays song.

        F6      Plays current pattern.

        SH+F6   Starts playing the song from the current order.

        F7      Starts playing from mark. If no mark is set, starts playing
                from current cursor position.

        SH+F7   Sets / Clears mark. Sets a mark in the current position. If
                a mark already exits, it is cleared and F7 will function as
                play from cursor.

        F8      Stops playing song or voice.

        SH+F8   Re-loads instruments to GUS from memory.

        F9      Status screen. Displays information about the song.

        SH+F9   Changes to the setup screen. Discussed in section 2.5.

        F10     Pops up quickhelp.

        CTRL-R  Loads new module. The colors in the load module menu can
                be chosen from the commandline with the following parameters:

                -f0    All colors white
                -f1    .S3Ms green, .STMs brown, .MODs white, others yellow
                -f2    .S3Ms green, others white.
                -f3    .S3Ms and .STMs green, others white (default)

        CTRL-P  Approximates the length of the song. Doesn't take Pattern
                Loop and Delay Pattern into consideration.

        CTRL-N  Clears current song.

        CTRL-W  Saves and prompts for a filename.

        CTRL-S  Quicksaves with the old filename.

        CTRL-D  Shells to DOS. If you experience troubles with this command,
                try using the commandline switch -l.

        CTRL-Q  Exits to DOS.

4. Miscellaneous

        This section is for those don't want to go through the trouble of
    reading the documentation. There are a couple of things that aren't
    in the quickhelps, though. On a GUS card, if your samples sound
    corrupted or just plain strange, it might be that they are loaded the
    wrong way into the GUS. Pressing shift+F8 should help. Also, you might
    be wondering where all those ########.ST3 files are coming from. They
    are just temporary files created by Scream Tracker to make loading
    samples faster. If you encounter them outside your instrument
    directories, feel free to delete them, they contain no important
    data.
```

4.1   Making Amiga .MOD modules with ST3

   I have been reading a lot of mail from people who are complaining
about ST3's terrible .MOD saving routines. This chapter is for those
who have encountered problems of that nature. First of all, S3M is a
completely different format from the old (and outdated) MOD. The
reason most .S3M's sound strange when saved as MOD files is that the
MOD format has so many limitations that some things just aren't
possible with such a restricted standard. In ST 3.2, when saving
an Amiga module, all conversion problems are displayed when you save
the module. Here are the main things to keep in mind when using the
MOD standard. Also, a mod edit mode has been added to make sure you
will not enter invalid pattern data. When you turn the mod edit mode
on, all pattern data that is not mod compatible is displayed in red.
   The MOD has only three octaves, 1 - 3. Those correspond to the ST
octaves of 3-5. The lowest possible note on an amiga is C-1, which is
C-3 in ST3, and the highest is B-3 (B-5 in ST3). When the Force Amiga
limits toggle is on, the notes above B-5 and below C-3 are played as
the respective notes.
   The MOD format doesn't have a volume column. However, there is a
Set Volume command. In practice, this means you can't have both a
volume and an effect on the same row.
   In the MOD format, you can't specify the frequency you want a sample
to be played at C-4. This is avoided by using a finetune value for
each sample, which provides only a crude adjustment. ST3 will try to
approximate the closest finetune value for each sample when a MOD is
saved.
   The .MOD format supports only 128 orders while Scream Tracker can
handle 256. Also, Scream Tracker support 100 patterns, while normal
MODs support only 64. There is an extended MOD format that supports
100 patterns too, which Scream Tracker will use if there are over 64
patterns, but many players on the PC don't recognize this format.
   There is a limit of 31 instruments in the MOD format. S3M, however,
can use up to 100 instruments.
   Extra fine slides aren't possible in a MOD (or Amiga hardware, for
that matter), so they can't be used. The same applies to fine vibrato.
These will be converted to the fine slides and vibratos, respectively.
   The S3M format allows speeds below 20h, while MODs are limited to 20h
and above.
   The retrig+volumeslide command isn't a PT command, so the volumeslide
part will be dropped out when the song is saved as a MOD.

4.2 Adlib FM-songs

   Scream Tracker 3 supports the FM chip on SB cards. You can use a GUS
for normal samples and SB for the FM-sound simultaneously. You can enter
FM-sounds by going to the sample type column in the instrument list and
pressing A. You can then edit the FM parameters by pressing space on the
Parameters in the subwindow. I will not describe the parameters in any
detail, since there are lots of good books and text files on the
subject. There is an example Adlib .S3M by Skaven included, from which
you can rip the FM sounds (they can be saved as normal samples) to find
out how they work. Also, when making Adlib songs, remember that pressing
the 1 key in the pattern edit mode enters the Adlib noteoff command on
the row, cutting the previous sound.

4.3 Closing Words

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